

CLAIMS

1. At least one manipulator (1, 2, 3) in a system of manipulators
namely robots (1,2) and/or external axes (3), each manipulator controlled
5 by a control system and programmed to carry out a plurality of tasks, the
manipulator manipulated by a manipulating means comprising
communication means communicating with the control system
characterized in that each manipulator is movably oriented in a first
coordinate system (4), and that each manipulator (1, 2, 3) also is fixedly
10 oriented in a second coordinate system (5, 6, 55) that can be unique for
each manipulator, and that the second coordinate system (5, 6, 55) is
movable relative to the first coordinate system.
2. At least one manipulator according to claim 1, **characterized** in that
15 moving a second coordinate system in the first coordinate system is
moving a manipulator.
3. At least one manipulator according to claim 2, **characterized** in that
moving a second coordinate system in the first coordinate system is
20 moving at least one second manipulator.
4. At least one manipulator according to any of the preceding claims,
characterized in that moving the second coordinate system in the first
coordinate system is moving the system of manipulators.
25
5. At least one manipulator according to any of the preceding claims,
characterized in that at least one manipulator comprises means to
receive movement commands from the control system.
- 30 6. At least one manipulator according to any of the preceding claims,
characterized in that at least one second manipulator in the control
system is operating as only operating in a second coordinate system.
7. At least one manipulator according to any of the preceding claims,
35 **characterized** in that at least one manipulator is manipulated by a

handheld control tool comprising communication means to communicate with the control system.

8. A system of manipulators according to any of claims 1-7,
5 **characterized** in that one of the manipulators is moving one spatially defined second coordinate system keeping the relative position to the other second coordinate system.

9. A system according to claims 8, **characterized** in that moving one
10 second coordinate system is moving all second coordinate system keeping the relative positions.

10. A handheld manipulating means to manipulate a manipulator according to any of claims 1-7, **characterized** in that the handheld
15 manipulating means comprises a manipulator input means such as a joystick, a touch display (10), and/or key buttons (9), starting pre-programmed movement commands.

11. A handheld manipulating means according to claim 10,
20 **characterized** in that it comprise means to manipulate the manipulators manually.

12. A handheld manipulating means according to claims 10-11,
25 **characterized** in that it comprises means to program a manipulator.

13. A control system for one or more manipulator (1, 2, 3) in said control system programmed to carry out a plurality of tasks, **characterized** in that the control system comprises means to define a first fixed coordinate system and at least a second movable coordinate
30 system, in that the second coordinate systems are movable in the first coordinate system.

14. A control system according to claim 13, **characterized** in that moving a second coordinate system origin in the second coordinate
35 system is moving that second coordinate system.

15. A control system according to any of claims 13-14, **characterized** in that it comprises means to communicate with at least one manipulator, and means to send manual movement commands to said manipulator.
- 5 16. A method for controlling at least one manipulator (1, 2, 3) in a system of manipulators namely robots (1,2) and/or external axes (3), each manipulator controlled by a control system and programmed to carry out a plurality of tasks, the manipulator manipulated by a manipulating means comprising communication means communicating with the control system
10 **characterized** each manipulator is brought to be movably oriented in a first coordinate system (4), and that each manipulator (1, 2, 3) is also fixedly oriented in a second coordinate system (5, 6, 55) that can be unique for each manipulator, and that the second coordinate system (5, 6, 55) is brought to be moved relative to the first coordinate system.
- 15 17. A method according to claim 16, **characterised** in that the robot system is moved by moving the second coordinate system.
- 20 18. A method for according to any of claims 16-17, **characterised** in that the robot system is moved by a man-machine interface means comprising communication means to communicate with the control system.
- 25 19. A method according to claim 18, **characterised** in that a man-machine interface is used to programme the actual movement of at least one manipulator.
- 30 20. Use of a manipulator according to any of claims 1-7 in a spot welding process, an arc welding process, lifting heavy units, a process comprising laser tools, or any mechanical work such as drilling or driving in rivets.